

In the space at the right of each reaction place the following letters:

- S (A or C) if it is a synthesis (addition or composition) reaction
 D if it is a decomposition reaction
 SD if it is a single displacement reaction
 DD if it is a double displacement reaction

1. $2 \text{HgO} \rightarrow 2 \text{Hg} + \text{O}_2$ _____
2. $2 \text{H}_2\text{O} \rightarrow 2 \text{H}_2 + \text{O}_2$ _____
3. $\text{Fe} + \text{S} \rightarrow \text{FeS}$ _____
4. $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ _____
5. $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$ _____
6. $\text{C} + \text{O}_2 \rightarrow \text{CO}_2$ _____
7. $\text{AgNO}_3 + \text{KI} \rightarrow \text{KNO}_3 + \text{AgI}$ _____
8. $3 \text{KOH} + \text{AlCl}_3 \rightarrow \text{Al(OH)}_3 + 3 \text{KCl}$ _____

In the space at the right of each item in column B write the letter of the item of column A that is most closely related.

Column A

- a. dissolves a substance
- b. large amount of salt in small amount of water
- c. liquid can hold no more solid
- d. small amount of salt in large amount of water
- e. substance that dissolves
- f. will not dissolve

Column B

- i) solvent _____
- ii) insoluble _____
- iii) saturated solution _____
- iv) dilute solution _____
- v) solute _____

Complete the following reactions by adding in the products.

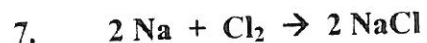
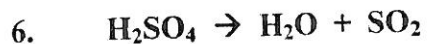
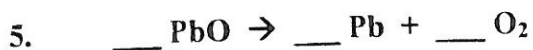
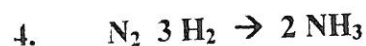
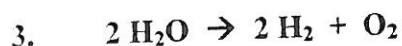
- a) zinc + tin sulfate \rightarrow _____
- b) calcium + copper nitrate \rightarrow _____
- c) aluminum + sodium chloride \rightarrow _____
- d) sodium + magnesium fluoride \rightarrow _____

Complete each of the following reactions. Be sure to balance them.

- a) $\text{Mg} + \text{H}_2\text{SO}_4 \rightarrow \text{MgSO}_4 +$ _____
- b) $\text{PbCl}_2 + \text{H}_2\text{S} \rightarrow \text{PbS} +$ _____
- c) $\text{Cl}_2 + 2 \text{KBr} \rightarrow$ _____ $+ \text{Br}_2\uparrow$
- d) $\text{HCl} + \text{KOH} \rightarrow$ _____ $+$ _____

Chemical Changes

Elements can combine to form compounds. Compounds can combine to form other compounds. Compounds can also be separated into the elements or the compounds from which they formed. Examine the equations below. Some represent composition reactions. Others represent decomposition reactions. In answering the questions following the equations, identify each equation below by the number at its left.



A) The numbers of the equations for composition reactions are _____

Why are they classed as composition reactions?

B) The numbers of the equations for decomposition reactions are _____

Why are they classed as decomposition reactions?

C) Write a balanced equation for the reaction in which iron and oxygen react to form iron oxide:

D) Write a balanced equation for the reaction in which lead oxide forms lead and oxygen:

E) Which equations represent reactions that form chlorides? _____

What are the names of those chlorides? _____

F) Do any of the equations show two compounds combining to form another compound? If so, which one? _____

G) Do any of the equations show a compound breaking apart to form other compounds? If so, which one? _____

Types of Reactions Worksheet

Balance the following equations and indicate the type of reaction taking place:



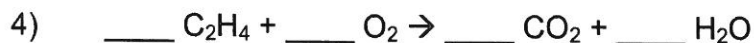
Type of reaction: _____



Type of reaction: _____



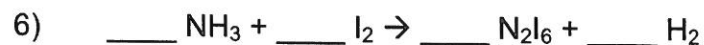
Type of reaction: _____



Type of reaction: _____



Type of reaction: _____



Type of reaction: _____



Type of reaction: _____



Type of reaction: _____

Types of Reactions Worksheet – Solutions

Balance the following equations and indicate the type of reaction taking place:



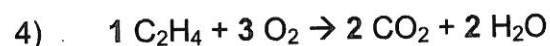
Type of reaction: **double displacement**



Type of reaction: **double displacement**



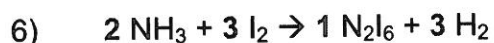
Type of reaction: **single displacement**



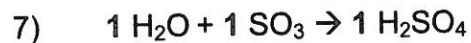
Type of reaction: **combustion**



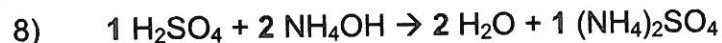
Type of reaction: **decomposition**



Type of reaction: **double displacement**



Type of reaction: **decomposition**



Type of reaction: **acid-base**